

AUTHOR INDEX TO VOLUME 133

| | |
|--|----------------|
| Aguilar, A., see M. González | 133 (1989) 172 |
| Ahlrichs, R., see J.C. Greer | 133 (1989) 191 |
| Allen, W.D., D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III, The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces | 133 (1989) 11 |
| Arnold, J., T. Dreier and D.W. Chandler, Rotational and vibrational energy transfer of $H_2(v=1, J=1)$ in collisions with H_2 , Ar, HD and D_2 | 133 (1989) 123 |
| Bakhshi, A.K., see C.-M. Liegener | 133 (1989) 177 |
| Baltzer, P., see B. Wannberg | 133 (1989) 281 |
| Barat, M., see J.A. Fayeton | 133 (1989) 259 |
| Barzoukas, M., M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss, Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups | 133 (1989) 323 |
| Bauer, H.-D., Th. Vogtmann, I. Müller and M. Schwoerer, Diffraction by holographic gratings in diacetylene crystals | 133 (1989) 303 |
| Bhanuprakash, K., P. Chandra, G. Hirsch and R.J. Buenker, Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the $b^1\Sigma^+$ and $a^1\Delta$ states | 133 (1989) 345 |
| Blanchard-Desce, M., see M. Barzoukas | 133 (1989) 323 |
| Böhle, W., H. Geisen, T. Krümpelmann and Ch. Ottinger, Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N_2 molecules | 133 (1989) 313 |
| Bourne, O.L., see D.J. Hart | 133 (1989) 103 |
| Brenot, J.C., see J.A. Fayeton | 133 (1989) 259 |
| Broida, M. and A. Persky, Dynamics of the reactions $Cl + HBr \rightarrow HCl + Br$ and $Br + HI \rightarrow HBr + I$. A quasiclassical trajectory study | 133 (1989) 405 |
| Broquier, M., see A. Picard-Bersellini | 133 (1989) 461 |
| Buenker, R.J., see K. Bhanuprakash | 133 (1989) 345 |
| Cacciatore, M., see R. Celiberto | 133 (1989) 355 |
| Cacciatore, M., see R. Celiberto | 133 (1989) 369 |
| Capitelli, M., see R. Celiberto | 133 (1989) 355 |
| Capitelli, M., see R. Celiberto | 133 (1989) 369 |
| Casida, M.E. and D.P. Chong, Contribution of correlation and relaxation to generalized overlaps for outer-valence ionization | 133 (1989) 47 |
| Celiberto, R., M. Cacciatore, M. Capitelli and C. Gorse, Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $H^*(n=1-5)$. I. Cross sections | 133 (1989) 355 |
| Celiberto, R., M. Cacciatore and M. Capitelli, Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $H^*(n=1-5)$. II. Translational energy distribution functions of dissociation products | 133 (1989) 369 |
| Chandler, D.W., see J. Arnold | 133 (1989) 123 |

AUTHOR INDEX TO VOLUME 133

| | |
|--|----------------|
| Aguilar, A., see M. González | 133 (1989) 172 |
| Ahlrichs, R., see J.C. Greer | 133 (1989) 191 |
| Allen, W.D., D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III, The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces | 133 (1989) 11 |
| Arnold, J., T. Dreier and D.W. Chandler, Rotational and vibrational energy transfer of $H_2(v=1, J=1)$ in collisions with H_2 , Ar, HD and D_2 | 133 (1989) 123 |
| Bakhshi, A.K., see C.-M. Liegener | 133 (1989) 177 |
| Baltzer, P., see B. Wannberg | 133 (1989) 281 |
| Barat, M., see J.A. Fayeton | 133 (1989) 259 |
| Barzoukas, M., M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss, Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups | 133 (1989) 323 |
| Bauer, H.-D., Th. Vogtmann, I. Müller and M. Schwoerer, Diffraction by holographic gratings in diacetylene crystals | 133 (1989) 303 |
| Bhanuprakash, K., P. Chandra, G. Hirsch and R.J. Buenker, Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the $b^1\Sigma^+$ and $a^1\Delta$ states | 133 (1989) 345 |
| Blanchard-Desce, M., see M. Barzoukas | 133 (1989) 323 |
| Böhle, W., H. Geisen, T. Krümpelmann and Ch. Ottinger, Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N_2 molecules | 133 (1989) 313 |
| Bourne, O.L., see D.J. Hart | 133 (1989) 103 |
| Brenot, J.C., see J.A. Fayeton | 133 (1989) 259 |
| Broida, M. and A. Persky, Dynamics of the reactions $Cl + HBr \rightarrow HCl + Br$ and $Br + HI \rightarrow HBr + I$. A quasiclassical trajectory study | 133 (1989) 405 |
| Broquier, M., see A. Picard-Bersellini | 133 (1989) 461 |
| Buenker, R.J., see K. Bhanuprakash | 133 (1989) 345 |
| Cacciatore, M., see R. Celiberto | 133 (1989) 355 |
| Cacciatore, M., see R. Celiberto | 133 (1989) 369 |
| Capitelli, M., see R. Celiberto | 133 (1989) 355 |
| Capitelli, M., see R. Celiberto | 133 (1989) 369 |
| Casida, M.E. and D.P. Chong, Contribution of correlation and relaxation to generalized overlaps for outer-valence ionization | 133 (1989) 47 |
| Celiberto, R., M. Cacciatore, M. Capitelli and C. Gorse, Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $H^*(n=1-5)$. I. Cross sections | 133 (1989) 355 |
| Celiberto, R., M. Cacciatore and M. Capitelli, Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $H^*(n=1-5)$. II. Translational energy distribution functions of dissociation products | 133 (1989) 369 |
| Chandler, D.W., see J. Arnold | 133 (1989) 123 |

| | |
|--|----------------|
| Chandra, P., see K. Bhanuprakash | 133 (1989) 345 |
| Cheikh, M., see A. Picard-Bersellini | 133 (1989) 461 |
| Chevrier, P., B. Collings, P. Das, J.C. Polanyi, M.G. Prisant and J.P. Visticot, Laser-induced fluorescence from weakly bound states of KI | 133 (1989) 1 |
| Chong, D.P., see M.E. Casida | 133 (1989) 47 |
| Collings, B., see P. Chevrier | 133 (1989) 1 |
| Colpa, J.P., see J. Rowat | 133 (1989) 65 |
| Cooper, I.L., Reply to Comment on "Perturbational and variational treatments of the Morse oscillator" | 133 (1989) 333 |
| Crépin, C. and P. Millié, Mechanism of Hg(³ P) relaxation in nitrogen matrices. I. Theoretical study of HgN ₂ | 133 (1989) 377 |
| Curtiss, L.A., J.W. Halley and J. Hautman, Many-body effects in ion-water interactions: Fe ³⁺ in water | 133 (1989) 89 |
| Das, P., see P. Chevrier | 133 (1989) 1 |
| De A. E Souza, A.C., see F. Maracci | 133 (1989) 291 |
| DeKock, R., see W.D. Allen | 133 (1989) 11 |
| De Souza, G.G.B., see F. Maracci | 133 (1989) 291 |
| Devore, T.C. and J.L. Gole, Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations | 133 (1989) 95 |
| Dreier, T., see J. Arnold | 133 (1989) 123 |
| Durup-Ferguson, M., see J.A. Fayeton | 133 (1989) 259 |
| Entelis, S.G., see S.F. Ippolitova | 133 (1989) 183 |
| Fayeton, J.A., J.C. Brenot, M. Durup-Ferguson and M. Barat, Reactive and detachment processes in halide ion-H ₂ collisions | 133 (1989) 259 |
| Fowler, P.W., P. Lazzeretti, E. Steiner and R. Zanasi, The theory of Sternheimer shielding in molecules in external fields | 133 (1989) 221 |
| Fukuda, T., S. Ikawa and M. Kimura, Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation | 133 (1989) 137 |
| Fukuda, T., S. Ikawa and M. Kimura, Vibrational relaxation and frequencies of liquid molecules. II. Comparison of theoretical and experimental results | 133 (1989) 151 |
| Geisen, H., see W. Böhle | 133 (1989) 313 |
| Gilibert, M., see M. González | 133 (1989) 172 |
| Gislason, E.A. and M. Sizun, Reactive cross section for A + B ₂ → AB + B in the limit of high collision energy | 133 (1989) 237 |
| Gislason, E.A., see M. Sizun | 133 (1989) 251 |
| Gole, J.L., see T.C. Devore | 133 (1989) 95 |
| González, M., A. Aguilar and M. Gilibert, Dynamics of the O ⁺ (⁴ S) + H ₂ (X ¹ S _g ⁺) → OH ⁺ + H ion-molecule reaction and some of its isotopic variants (D ₂ and HD). II. Quasiclassical trajectory study in the range of relative energies 0.25–6.30 eV. Chem. Phys. 131 (1989) 347. Erratum | 133 (1989) 172 |
| Gorse, C., see R. Celiberto | 133 (1989) 355 |
| Greer, J.C., R. Ahlrichs and I.V. Hertel, Binding energies and structures of NH ₃ clusters | 133 (1989) 191 |
| Gropen, O., see D. Strömborg | 133 (1989) 207 |

- Halley, J.W., see L.A. Curtiss 133 (1989) 89
- Hart, D.J. and O.L. Bourne, High-resolution coherent VUV spectroscopy of NO[C²Π(1)~B²Π(10), B²Π(11)] and CO[B¹Σ⁺(0)] 133 (1989) 103
- Hautman, J., see L.A. Curtiss 133 (1989) 89
- Helman, A.B., Classical solvent dynamics in electron transfer reactions 133 (1989) 271
- Hertel, I.V., see J.C. Greer 133 (1989) 191
- Hirsch, G., see K. Bhanuprakash 133 (1989) 345
- Holland, D.M.P., A photoelectron spectroscopy study of the four outermost valence orbitals of formaldehyde 133 (1989) 453
- Horner, D.A., see W.D. Allen 133 (1989) 11
- Huizer, A.H., see P.C.M. Weisenborn 133 (1989) 437
- Hunter, C.A., J.K.M. Sanders and A.J. Stone, Exciton coupling in porphyrin dimers 133 (1989) 395
- Ikawa, S., see T. Fukuda 133 (1989) 137
- Ikawa, S., see T. Fukuda 133 (1989) 151
- Ippolitova, S.F., I.V. Kumpanenko and S.G. Entelis, Computation of the vibrational modes of infinite two-dimensional ordered overlayers of adsorbed species 133 (1989) 183
- Islampour, R., Electronic spectral line shape of a polyatomic molecule 133 (1989) 425
- Josse, D., see M. Barzoukas 133 (1989) 323
- Karlsson, L., see B. Wannberg 133 (1989) 281
- Keane, M.P., see B. Wannberg 133 (1989) 281
- Kimura, M., see T. Fukuda 133 (1989) 137
- Kimura, M., see T. Fukuda 133 (1989) 151
- Kondow, T., see H. Nonaka 133 (1989) 165
- Kornweitz, H., see A. Persky 133 (1989) 415
- Krümpelmann, T., see W. Böhle 133 (1989) 313
- Kuchitsu, K., see H. Nonaka 133 (1989) 165
- Kumpanenko, I.V., see S.F. Ippolitova 133 (1989) 183
- Lazzeretti, P., see P.W. Fowler 133 (1989) 221
- Lehmann, K.K., Comment on "Perturbational and variational treatments of the Morse oscillator" 133 (1989) 331
- Lehn, J.-M., see M. Barzoukas 133 (1989) 323
- Liegner, C.-M., The treatment of electron correlation in aperiodic systems. I. Description of methods 133 (1989) 173
- Liegner, C.-M., A.K. Bakhshi, A. Sutjianto and P. Otto, The treatment of electron correlation in aperiodic systems. II. Applications to poly(Li₂H₂) and poly(acetylene, carbyne) chains 133 (1989) 177
- Maracci, F., R. Platania, A.C. de A. E Souza and G.G.B. de Souza, M-shell Coster-Kronig electron spectra of germane 133 (1989) 291
- Mason, E.A., see F.J. Uribe 133 (1989) 335
- Millié, P., see C. Crépin 133 (1989) 377
- Misurkin, I.A., see A.L. Tchougreeff 133 (1989) 77
- Müller, I., see H.-D. Bauer 133 (1989) 303

| | |
|--|----------------|
| Nonaka, H., M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu, Collisional ionization of highly excited neon atoms by benzene- <i>d</i> ₆ and carbon suboxide | 133 (1989) 165 |
| Ottinger, Ch., see W. Böhle | 133 (1989) 313 |
| Otto, P., see C.-M. Liegener | 133 (1989) 177 |
| Palmer, M.H. and I.C. Walker, The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies | 133 (1989) 113 |
| Parlant, G., see M. Sizun | 133 (1989) 251 |
| Penzkofer, A., see J. Schmidt | 133 (1989) 297 |
| Persky, A., see M. Broida | 133 (1989) 405 |
| Persky, A. and H. Kornweitz, Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction O+HBr→OH+Br | 133 (1989) 415 |
| Petelenz, P., Band structure of charge transfer excitons in anthracene | 133 (1989) 199 |
| Picard-Bersellini, A., M. Cheikh and M. Broquier, Infrared photodissociation in ONCl using a multiline CO laser | 133 (1989) 461 |
| Platania, R., see F. Maracci | 133 (1989) 291 |
| Polanyi, J.C., see P. Chevrier | 133 (1989) 1 |
| Prisant, M.G., see P. Chevrier | 133 (1989) 1 |
| Remington, R.B., see W.D. Allen | 133 (1989) 11 |
| Rowat, J. and J.P. Colpa, A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization | 133 (1989) 65 |
| Sanders, J.K.M., see C.A. Hunter | 133 (1989) 395 |
| Schaefer III, H.F., see W.D. Allen | 133 (1989) 11 |
| Schmidt, J. and A. Penzkofer, Fluorescence spectroscopic investigations of rhodamine dye vapors | 133 (1989) 297 |
| Schwoerer, M., see H.-D. Bauer | 133 (1989) 303 |
| Sizun, M., see E.A. Gislason | 133 (1989) 237 |
| Sizun, M., G. Parlant and E.A. Gislason, A trajectory surface-hopping study of Cl+H ₂ reactive collisions. II. Results at high energy | 133 (1989) 251 |
| Steiner, E., see P.W. Fowler | 133 (1989) 221 |
| Stone, A.J., see C.A. Hunter | 133 (1989) 395 |
| Strömberg, D., O. Gropen and U. Wahlgren, Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes | 133 (1989) 207 |
| Sutjianto, A., see C.-M. Liegener | 133 (1989) 177 |
| Svensson, S., see B. Wannberg | 133 (1989) 281 |
| Tchougreeff, A.L. and I.A. Misurkin, Theoretical analysis of catalytic activity of transition metal complexes in symmetry forbidden reactions | 133 (1989) 77 |
| Uematsu, M., see H. Nonaka | 133 (1989) 165 |
| Uribe, F.J. and E.A. Mason, Generalized Einstein relations for electron diffusion in monoatomic gases | 133 (1989) 335 |

- Varma, C.A.G.O., see P.C.M. Weisenborn 133 (1989) 437
Visticot, J.P., see P. Chevrier 133 (1989) 1
Vogtmann, Th., see H.-D. Bauer 133 (1989) 303
- Wahlgren, U., see D. Strömberg 133 (1989) 207
Walker, I.C., see M.H. Palmer 133 (1989) 113
- Wannberg, B., S. Svensson, M.P. Keane, L. Karlsson and P. Baltzer, Isotope effects in the Auger electron spectra of HBr and DBr 133 (1989) 281
- Weisenborn, P.C.M., A.H. Huizer and C.A.G.O. Varma, Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethylaminobenzonitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminobenzonitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile 133 (1989) 437
- Yamanouchi, K., see H. Nonaka 133 (1989) 165
- Zanasi, R., see P.W. Fowler 133 (1989) 221
Zyss, J., see M. Barzoukas 133 (1989) 323

LIST OF SUBJECTS

1 METHODS

1.1 Theoretical

- 1.1.1 Group theory and algebras
- 1.1.2 Classical mechanics
- 1.1.3 Quantized field theory
- 1.1.4 Many body and quasiparticle approaches *
- 1.1.5 Coupling schemes and perturbative treatments *
- 1.1.6 Relativistic quantum mechanics *
- 1.1.7 Transport quantum mechanics
- 1.1.8 Equilibrium statistical mechanics
- 1.1.9 Statistical mechanics of stationary states *
- 1.1.10 Non-equilibrium thermodynamic and hydrodynamic theories
- 1.1.11 Ab initio schemes for stationary properties *
- 1.1.12 Computational and simulation methods *
- 1.1.13 Molecular dynamics and scattering theory *

1.2 Experimental

- 1.2.1 Magnetic resonances
- 1.2.2 Cyclotron resonance
- 1.2.3 Microwave spectroscopy
- 1.2.4 Infrared spectroscopy *
- 1.2.5 Raman spectroscopy *
- 1.2.6 Visible and UV spectroscopy *
- 1.2.7 Fluorescence spectroscopy *
- 1.2.8 Photoelectron and Auger spectroscopy *
- 1.2.9 X-ray spectroscopy
- 1.2.10 Electron impact spectroscopy *
- 1.2.11 Laser methods *
- 1.2.12 Picosecond spectroscopy *
- 1.2.13 Non-linear optical spectroscopy *
- 1.2.14 Synchrotron spectroscopies *
- 1.2.15 Coherent optical spectroscopy *
- 1.2.16 Optical pumping *
- 1.2.17 Multiple resonance spectroscopy
- 1.2.18 Optoacoustic spectroscopy
- 1.2.19 Atomic and molecular beam techniques *
- 1.2.20 Time-resolved experiments *
- 1.2.21 Mass spectrometry *
- 1.2.22 Radiolysis
- 1.2.23 Mössbauer spectroscopy
- 1.2.24 X-ray, electron and neutron diffraction
- 1.2.25 Neutron scattering
- 1.2.26 Light scattering
- 1.2.27 Field emission and field ionization
- 1.2.28 Measurement of macroscopic variables

2 OBJECTS

2.1 Bulk systems

- 2.1.1 Gases *
- 2.1.2 Supersonic beams *
- 2.1.3 Liquids neat *
- 2.1.4 Liquid mixtures and solutions *
- 2.1.5 Crystals *
- 2.1.5.1 neat *
- 2.1.5.2 mixed *
- 2.1.6 Glasses
- 2.1.7 Liquid crystals
- 2.1.8 Polymers *
- 2.1.9 Semiconductors
- 2.1.10 Metals and alloys
- 2.1.11 Thin films *
- 2.1.12 Surfaces *
- 2.1.13 Low-dimensional materials
- 2.1.14 Dielectrics *
- 2.1.15 Plasmas *
- 2.1.16 Biological systems

2.2 Microscopic systems

- 2.2.1 Atoms *
- 2.2.2 Molecules (neutral and ionic) *
- 2.2.2.1 diatomic *
- 2.2.2.2 small polyatomics *
- 2.2.2.3 aromatics *
- 2.2.2.4 other large *
- 2.2.2.5 polymeric and biological *
- 2.2.3 Molecular aggregates *
- 2.2.3.1 dimers *
- 2.2.3.2 van der Waals molecules
- 2.2.3.3 clusters *
- 2.2.3.4 complexes *
- 2.2.4 Free radicals (including hydronium and muonium)
- 2.2.5 Quasiparticles (including excitons) *
- 2.2.6 Defects and impurities
- 2.2.7 Ions and charge carriers *

* Denotes subjects covered in this volume

3 PHENOMENA

| | | | |
|--------|---|--------|--|
| 3.1 | Molecular structure * | 3.16 | Multiphoton phenomena |
| 3.2 | Vibrations and rotations of molecules * | 3.17 | Reactions (including dissociation) * |
| 3.3 | Electronic structure and states * | 3.17.1 | gas phase * |
| 3.4 | Electric and magnetic properties * | 3.17.2 | condensed phase * |
| 3.5 | Spin splittings * | 3.17.3 | photochemical * |
| 3.6 | Optical activity | 3.18 | Tunnelling |
| 3.7 | Molecular interactions * | 3.19 | Electron transfer * |
| 3.8 | Spectral bandshapes and intensities * | 3.20 | Positron annihilation |
| 3.9 | Coupling of electronic and nuclear motion | 3.21 | Ionization (including Rydberg states) * |
| 3.10 | Energy transfer processes * | 3.22 | Molecular motion (including diffusive) |
| 3.11 | Molecular photophysical processes * | 3.23 | Isotopic effects |
| 3.12 | Intramolecular dynamics * | 3.24 | Fluctuations and noise |
| 3.12.1 | radiationless transitions | 3.25 | Collective motion and excitations |
| 3.12.2 | vibrational energy redistribution (including vibrational dissociation) | 3.26 | Surface effects and catalysis * |
| 3.13 | Luminescence spectra, yields and lifetimes * | 3.27 | Thermodynamic and transport properties * |
| 3.14 | Coherence loss processes * | 3.28 | Structure of solids and liquids |
| 3.15 | Non-linear responses (including optical) * | 3.29 | Critical phenomena |
| | | 3.30 | Phase transitions |

SUBJECT INDEX TO VOLUME 133

METHODS

Theoretical

Many body and quasiparticle approaches

- Contribution of correlation and relaxation to generalized overlaps for outer-valence ionization, M.E. Casida and D.P. Chong 133 (1989) 47
 Theoretical analysis of catalytic activity of transition metal complexes in symmetry forbidden reactions, A.L. Tchougreeff and I.A. Misurkin 133 (1989) 77
 The treatment of electron correlation in aperiodic systems. I. Description of methods, C.-M. Liegener 133 (1989) 173
 The treatment of electron correlation in aperiodic systems. II. Applications to poly(Li₂H₂) and poly(acetylene, carbyne) chains, C.-M. Liegener, A.K. Bakhshi, A. Sutjianto and P. Otto 133 (1989) 177
 Band structure of charge transfer excitons in anthracene, P. Petelenz 133 (1989) 199

Coupling schemes and perturbative treatments

- A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization, J. Rowat and J.P. Colpa 133 (1989) 65
 Theoretical analysis of catalytic activity of transition metal complexes in symmetry forbidden reactions, A.L. Tchougreeff and I.A. Misurkin 133 (1989) 77
 Comment on "Perturbational and variational treatments of the Morse oscillator", K.K. Lehmann 133 (1989) 331
 Reply to Comment on "Perturbational and variational treatments of the Morse oscillator", I.L. Cooper 133 (1989) 333
 Generalized Einstein relations for electron diffusion in monatomic gases, F.J. Uribe and E.A. Mason 133 (1989) 335

Relativistic quantum mechanics

- Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes, D. Strömberg, O. Gropen and U. Wahlgren 133 (1989) 207

Statistical mechanics of stationary states

- Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation, T. Fukuda, S. Ikawa and M. Kimura 133 (1989) 137
 Generalized Einstein relations for electron diffusion in monatomic gases, F.J. Uribe and E.A. Mason 133 (1989) 335

Ab initio schemes for stationary properties

- The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces, W.D. Allen, D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III 133 (1989) 11

- Many-body effects in ion-water interactions: Fe^{3+} in water, L.A. Curtiss, J.W. Halley and J. Hautman 133 (1989) 89
- The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker 133 (1989) 113
- Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes, D. Strömberg, O. Gropen and U. Wahlgren 133 (1989) 207
- The theory of Sternheimer shielding in molecules in external fields, P.W. Fowler, P. Lazzaretti, E. Steiner and R. Zanasi 133 (1989) 221
- Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the $b^1\Sigma^+$ and $a^1\Delta$ states, K. Bhanuprakash, P. Chandra, G. Hirsch and R.J. Buenker 133 (1989) 345
- Computational and simulation methods*
- Computation of the vibrational modes of infinite two-dimensional ordered overlayers of adsorbed species, S.F. Ippolitova, I.V. Kumpanenko and S.G. Entelis 133 (1989) 183
- Binding energies and structures of NH_3 clusters, J.C. Greer, R. Ahlrichs and I.V. Hertel 133 (1989) 191
- Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $\text{H}^*(n=1-5)$. I. Cross sections, R. Celiberto, M. Caciato, M. Capitelli and C. Gorse 133 (1989) 355
- Electron impact direct dissociation processes of vibrationally excited H_2 molecules to excited atomic hydrogen $\text{H}^*(n=1-5)$. II. Translational energy distribution functions of dissociation products, R. Celiberto, M. Caciato and M. Capitelli 133 (1989) 369
- Mechanism of $\text{Hg}(^3\text{P})$ relaxation in nitrogen matrices. I. Theoretical study of HgN_2 , C. Crépin and P. Millié 133 (1989) 377
- Exciton coupling in porphyrin dimers, C.A. Hunter, J.K.M. Sanders and A.J. Stone 133 (1989) 395
- Dynamics of the reactions $\text{Cl} + \text{HBr} \rightarrow \text{HCl} + \text{Br}$ and $\text{Br} + \text{HI} \rightarrow \text{HBr} + \text{I}$. A quasiclassical trajectory study, M. Broida and A. Persky 133 (1989) 405
- Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction $\text{O} + \text{HBr} \rightarrow \text{OH} + \text{Br}$, A. Persky and H. Kornweitz 133 (1989) 415
- Molecular dynamics and scattering theory*
- Reactive cross section for $\text{A} + \text{B}_2 \rightarrow \text{AB} + \text{B}$ in the limit of high collision energy, E.A. Gislason and M. Sizun 133 (1989) 237
- A trajectory surface-hopping study of $\text{Cl} + \text{H}_2$ reactive collisions. II. Results at high energy, M. Sizun, G. Parlant and E.A. Gislason 133 (1989) 251
- Reactive and detachment processes in halide ion- H_2 collisions, J.A. Fayeton, J.C. Brenot, M. Durup-Ferguson and M. Barat 133 (1989) 259
- Isotope effects in the Auger electron spectra of HBr and DBr , B. Wannberg, S. Svensson, M.P. Keane, L. Karlsson and P. Baltzer 133 (1989) 281
- Dynamics of the reactions $\text{Cl} + \text{HBr} \rightarrow \text{HCl} + \text{Br}$ and $\text{Br} + \text{HI} \rightarrow \text{HBr} + \text{I}$. A quasiclassical trajectory study, M. Broida and A. Persky 133 (1989) 405
- Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction $\text{O} + \text{HBr} \rightarrow \text{OH} + \text{Br}$, A. Persky and H. Kornweitz 133 (1989) 415
- Electronic spectral line shape of a polyatomic molecule, R. Islampour 133 (1989) 425

Experimental*Infrared spectroscopy*

Collisional ionization of highly excited neon atoms by benzene-*d*₆ and carbon suboxide, H. Nonaka, M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu

133 (1989) 165

Raman spectroscopy

Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation, T. Fukuda, S. Ikawa and M. Kimura

133 (1989) 137

Visible and UV spectroscopy

High-resolution coherent VUV spectroscopy of NO[C²Π(1)~B²Π(10), B²Π(11)] and CO[B¹Σ⁺(0)], D.J. Hart and O.L. Bourne

133 (1989) 103

The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker

133 (1989) 113

Band structure of charge transfer excitons in anthracene, P. Petelenz

133 (1989) 199

Diffraction by holographic gratings in diacetylene crystals, H.-D. Bauer, Th. Vogtmann, I. Müller and M. Schwoerer

133 (1989) 303

Exciton coupling in porphyrin dimers, C.A. Hunter, J.K.M. Sanders and A.J. Stone

133 (1989) 395

Fluorescence spectroscopy

Laser-induced fluorescence from weakly bound states of KI, P. Chevrier, B. Collings, P. Das, J.C. Polanyi, M.G. Prisant and J.P. Visticot

133 (1989) 1

Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations, T.C. Devore and J.L. Gole

133 (1989) 95

Fluorescence spectroscopic investigations of rhodamine dye vapors, J. Schmidt and A. Penzkofer

133 (1989) 297

Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethylaminoboronitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminoboronitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma

133 (1989) 437

Photoelectron and Auger spectroscopy

Isotope effects in the Auger electron spectra of HBr and DBr, B. Wannberg, S. Svensson, M.P. Keane, L. Karlsson and P. Baltzer

133 (1989) 281

M-shell Coster-Kronig electron spectra of germane, F. Maracci, R. Platania, A.C. de A. E Souza and G.G.B. de Souza

133 (1989) 291

A photoelectron spectroscopy study of the four outermost valence orbitals of formaldehyde, D.M.P. Holland

133 (1989) 453

Electron impact spectroscopy

The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker

133 (1989) 113

Laser methods

- High-resolution coherent VUV spectroscopy of NO[C²Π(1)~B²Π(10), B²Π(11)] and CO[B¹Σ⁺(0)], D.J. Hart and O.L. Bourne 133 (1989) 103
- Diffraction by holographic gratings in diacetylene crystals, H.-D. Bauer, Th. Vogtmann, I. Müller and M. Schwoerer 133 (1989) 303
- Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N₂ molecules, W. Böhle, H. Geisen, T. Krümpelmann and Ch. Ottinger 133 (1989) 313
- Infrared photodissociation in ONCl using a multiline CO laser, A. Picard-Bersellini, M. Cheikh and M. Broquier 133 (1989) 461

Picosecond spectroscopy

- Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethylaminobenzonitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminobenzonitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma 133 (1989) 437

Non-linear optical spectroscopy

- Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups, M. Barzoukas, M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss 133 (1989) 323

Synchrotron spectroscopies

- A photoelectron spectroscopy study of the four outermost valence orbitals of formaldehyde, D.M.P. Holland 133 (1989) 453

Coherent optical spectroscopy

- Rotational and vibrational energy transfer of H₂(v=0, J=0) in collisions with H₂, Ar, HD and D₂, J. Arnold, T. Dreier and D.W. Chandler 133 (1989) 123

Optical pumping

- Rotational and vibrational energy transfer of H₂(v=0, J=0) in collisions with H₂, Ar, HD and D₂, J. Arnold, T. Dreier and D.W. Chandler 133 (1989) 123

- Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N₂ molecules, W. Böhle, H. Geisen, T. Krümpelmann and Ch. Ottinger 133 (1989) 313

Atomic and molecular beam techniques

- Reactive and detachment processes in halide ion-H₂ collisions, J.A. Fayeton, J.C. Brenot, M. Durup-Ferguson and M. Barat 133 (1989) 259

- Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N₂ molecules, W. Böhle, H. Geisen, T. Krümpelmann and Ch. Ottinger 133 (1989) 313

Time-resolved experiments

- A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization, J. Rowat and J.P. Colpa 133 (1989) 65

Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethylaminoboronitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminoboronitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma

133 (1989) 437

Mass spectrometry

Collisional ionization of highly excited neon atoms by benzene-*d*₆ and carbon suboxide, H. Nonaka, M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu

133 (1989) 165

OBJECTS**Bulk systems***Gases*

Fluorescence spectroscopic investigations of rhodamine dye vapors, J. Schmidt and A. Penzkofer

133 (1989) 297

Generalized Einstein relations for electron diffusion in monatomic gases, F.J. Uribe and E.A. Mason

133 (1989) 335

Supersonic beams

High-resolution coherent VUV spectroscopy of NO[C²Π(1)~B²Π(10), B²Π(11)] and CO[B¹Σ⁺(0)], D.J. Hart and O.L. Bourne

133 (1989) 103

Liquids neat

Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation, T. Fukuda, S. Ikawa and M. Kimura

133 (1989) 137

Liquid mixtures and solutions

Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation, T. Fukuda, S. Ikawa and M. Kimura

133 (1989) 137

Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups, M. Barzoukas, M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss

133 (1989) 323

Crystals

Diffraction by holographic gratings in diacetylene crystals, H.-D. Bauer, Th. Vogtmann, I. Müller and M. Schwoerer

133 (1989) 303

-neat

Band structure of charge transfer excitons in anthracene, P. Petelenz

133 (1989) 199

-mixed

A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization, J. Rowat and J.P. Colpa

133 (1989) 65

Polymers

Diffraction by holographic gratings in diacetylene crystals, H.-D. Bauer, Th. Vogtmann, I. Müller and M. Schwoerer

133 (1989) 303

Thin films

- Computation of the vibrational modes of infinite two-dimensional ordered overlayers of adsorbed species, S.F. Ippolitova, I.V. Kumpanenko and S.G. Entelis 133 (1989) 183

Surfaces

- Computation of the vibrational modes of infinite two-dimensional ordered overlayers of adsorbed species, S.F. Ippolitova, I.V. Kumpanenko and S.G. Entelis 133 (1989) 183

Dielectrics

- Classical solvent dynamics in electron transfer reactions, A.B. Helman 133 (1989) 271

Plasmas

- Electron impact direct dissociation processes of vibrationally excited H₂ molecules to excited atomic hydrogen H*(n=1-5). I. Cross sections, R. Celiberto, M. Cacciatore, M. Capitelli and C. Gorse 133 (1989) 355

- Electron impact direct dissociation processes of vibrationally excited H₂ molecules to excited atomic hydrogen H*(n=1-5). II. Translational energy distribution functions of dissociation products, R. Celiberto, M. Cacciatore and M. Capitelli 133 (1989) 369

*Microscopic systems**Atoms*

- Collisional ionization of highly excited neon atoms by benzene-d₆ and carbon suboxide, H. Nonaka, M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu 133 (1989) 165

Molecules (neutral and ionic)

- The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces, W.D. Allen, D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III 133 (1989) 11

- Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations, T.C. Devore and J.L. Gole 133 (1989) 95

- The theory of Sternheimer shielding in molecules in external fields, P.W. Fowler, P. Lazzeretti, E. Steiner and R. Zanasi 133 (1989) 221

- A trajectory surface-hopping study of Cl+H₂ reactive collisions. II. Results at high energy, M. Sizun, G. Parlant and E.A. Gislason 133 (1989) 251

- Reactive and detachment processes in halide ion-H₂ collisions, J.A. Fayeton, J.C. Brenot, M. Durup-Ferguson and M. Barat 133 (1989) 259

- Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups, M. Barzoukas, M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zysse 133 (1989) 323

- Electronic spectral line shape of a polyatomic molecule, R. Islampour 133 (1989) 425

- Infrared photodissociation in ONCl using a multiline CO laser, A. Picard-Bersellini, M. Cheikh and M. Broquier 133 (1989) 461

-diatomic

- Laser-induced fluorescence from weakly bound states of KI, P. Chevrier, B. Collings, P. Das, J.C. Polanyi, M.G. Prisant and J.P. Visticot 133 (1989) 1

- Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations, T.C. Devore and J.L. Gole 133 (1989) 95
- High-resolution coherent VUV spectroscopy of NO[C²Π(1)~B²Π(10), B²Π(11)] and CO[B'¹Σ⁺(0)], D.J. Hart and O.L. Bourne 133 (1989) 103
- Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N₂ molecules, W. Böhle, H. Geisen, T. Krümpelmann and Ch. Ottlinger 133 (1989) 313
- Comment on "Perturbational and variational treatments of the Morse oscillator", K.K. Lehmann 133 (1989) 331
- Reply to Comment on "Perturbational and variational treatments of the Morse oscillator", I.L. Cooper 133 (1989) 333
- Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the b'¹Σ⁺ and a'¹Δ states, K. Bhanuprakash, P. Chandra, G. Hirsch and R.J. Buenker 133 (1989) 345
- Electron impact direct dissociation processes of vibrationally excited H₂ molecules to excited atomic hydrogen H*(n=1-5). I. Cross sections, R. Celiberto, M. Caciato, M. Capitelli and C. Gorse 133 (1989) 355
- small polyatomics*
- Laser-induced fluorescence from weakly bound states of KI, P. Chevrier, B. Collings, P. Das, J.C. Polanyi, M.G. Prisant and J.P. Visticot 133 (1989) 1
- Contribution of correlation and relaxation to generalized overlaps for outer-valence ionization, M.E. Casida and D.P. Chong 133 (1989) 47
- Collisional ionization of highly excited neon atoms by benzene-d₆ and carbon suboxide, H. Nonaka, M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu 133 (1989) 165
- Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes, D. Strömberg, O. Gropen and U. Wahlgren 133 (1989) 207
- A trajectory surface-hopping study of Cl+H₂ reactive collisions. II. Results at high energy, M. Sizun, G. Parlant and E.A. Gislason 133 (1989) 251
- M-shell Coster-Kronig electron spectra of germane, F. Maracci, R. Platania, A.C. de A. E Souza and G.G.B. de Souza 133 (1989) 291
- A photoelectron spectroscopy study of the four outermost valence orbitals of formaldehyde, D.M.P. Holland 133 (1989) 453
- aromatics*
- The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker 133 (1989) 113
- Fluorescence spectroscopic investigations of rhodamine dye vapors, J. Schmidt and A. Penzkofer 133 (1989) 297
- Exciton coupling in porphyrin dimers, C.A. Hunter, J.K.M. Sanders and A.J. Stone 133 (1989) 395
- Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethylaminobenzonitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminobenzonitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma 133 (1989) 437

-other large

Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups, M. Barzoukas, M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss

133 (1989) 323

-polymeric and biological

The treatment of electron correlation in aperiodic systems. I. Description of methods, C.-M. Liegner

133 (1989) 173

The treatment of electron correlation in aperiodic systems. II. Applications to poly(Li_2H_2) and poly(acetylene, carbyne) chains, C.-M. Liegner, A.K. Bakhshi, A. Sutjianto and P. Otto

133 (1989) 177

Molecular aggregates

Many-body effects in ion-water interactions: Fe^{3+} in water, L.A. Curtiss, J.W. Halley and J. Hautman

133 (1989) 89

Binding energies and structures of NH_3 clusters, J.C. Greer, R. Ahlrichs and I.V. Hertel

133 (1989) 191

-dimers

Exciton coupling in porphyrin dimers, C.A. Hunter, J.K.M. Sanders and A.J. Stone

133 (1989) 395

-clusters

Many-body effects in ion-water interactions: Fe^{3+} in water, L.A. Curtiss, J.W. Halley and J. Hautman

133 (1989) 89

Binding energies and structures of NH_3 clusters, J.C. Greer, R. Ahlrichs and I.V. Hertel

133 (1989) 191

-complexes

Theoretical analysis of catalytic activity of transition metal complexes in symmetry forbidden reactions, A.L. Tchougrefff and I.A. Misurkin

133 (1989) 77

Mechanism of $\text{Hg}({}^3\text{P})$ relaxation in nitrogen matrices. I. Theoretical study of HgN_2 , C. Crépin and P. Millié

133 (1989) 377

Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethyl-aminobenzonitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminobenzonitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma

133 (1989) 437

Quasiparticles (including excitons)

Band structure of charge transfer excitons in anthracene, P. Petelenz

133 (1989) 199

Ions and charge carriers

Generalized Einstein relations for electron diffusion in monatomic gases, F.J. Uribe and E.A. Mason

133 (1989) 335

PHENOMENA*Molecular structure*

The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces, W.D. Allen, D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III

133 (1989) 11

- Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes,
D. Strömberg, O. Gropen and U. Wahlgren

133 (1989) 207

Vibrations and rotations of molecules

- The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces, W.D. Allen, D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III
Computation of the vibrational modes of infinite two-dimensional ordered overlayers of adsorbed species, S.F. Ippolitova, I.V. Kumpansenko and S.G. Entelis

133 (1989) 11

- Comment on "Perturbational and variational treatments of the Morse oscillator",
K.K. Lehmann

133 (1989) 183

- Reply to Comment on "Perturbational and variational treatments of the Morse oscillator",
I.L. Cooper

133 (1989) 331

133 (1989) 333

Electronic structure and states

- The lithium superoxide radical: symmetry breaking phenomena and potential energy surfaces, W.D. Allen, D.A. Horner, R. DeKock, R.B. Remington and H.F. Schaefer III

133 (1989) 11

- Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations, T.C. Devore and J.L. Gole

133 (1989) 95

- The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker

133 (1989) 113

- The treatment of electron correlation in aperiodic systems. I. Description of methods, C.-M. Liegener

133 (1989) 173

- The treatment of electron correlation in aperiodic systems. II. Applications to poly(Li₂H₂) and poly(acetylene, carbyne) chains, C.-M. Liegener, A.K. Bakhshi, A. Sutjianto and P. Otto

133 (1989) 177

- Band structure of charge transfer excitons in anthracene, P. Petelenz

133 (1989) 199

- Non-relativistic and relativistic calculations on some Zn, Cd and Hg complexes,
D. Strömberg, O. Gropen and U. Wahlgren

133 (1989) 207

- Classical solvent dynamics in electron transfer reactions, A.B. Helman

133 (1989) 271

- M-shell Coster-Kronig electron spectra of germane, F. Maracci, R. Platania, A.C. de A. E Souza and G.G.B. de Souza

133 (1989) 291

- Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the b¹S⁺ and a¹A states, K. Bhanuprakash, P. Chandra, G. Hirsch and R.J. Buenker

133 (1989) 345

Electric and magnetic properties

- A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization, J. Rowat and J.P. Colpa

133 (1989) 65

- The theory of Sternheimer shielding in molecules in external fields, P.W. Fowler, P. Lazzeretti, E. Steiner and R. Zanasi

133 (1989) 221

Spin splittings

- Ab initio calculations for dipole-forbidden transitions in NBr: radiative lifetimes of the b¹S⁺ and a¹A states, K. Bhanuprakash, P. Chandra, G. Hirsch and R.J. Buenker

133 (1989) 345

Molecular interactions

- Many-body effects in ion-water interactions: Fe³⁺ in water, L.A. Curtiss, J.W. Halley and J. Hautman

133 (1989) 89

- Reactive and detachment processes in halide ion-H₂ collisions, J.A. Fayeton, J.C. Brenot, M. Durup-Ferguson and M. Barat 133 (1989) 259
- Exciton coupling in porphyrin dimers, C.A. Hunter, J.K.M. Sanders and A.J. Stone 133 (1989) 395
- Dynamics of the reactions Cl+HBr→HCl+Br and Br+HI→HBr+I. A quasiclassical trajectory study, M. Broida and A. Persky 133 (1989) 405
- Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction O+HBr→OH+Br, A. Persky and H. Kornweitz 133 (1989) 415
- Spectral bandshapes and intensities*
- Vibrational relaxation and frequencies of liquid molecules. I. Theoretical expressions for practical calculation, T. Fukuda, S. Ikawa and M. Kimura 133 (1989) 137
- M-shell Coster-Kronig electron spectra of germane, F. Maracci, R. Platania, A.C. de A. E Souza and G.G.B. de Souza 133 (1989) 291
- Electronic spectral line shape of a polyatomic molecule, R. Islampour 133 (1989) 425
- Energy transfer processes*
- Formation of the low-lying electronic states of CrO in highly exothermic reactive oxidation. Assessment of new states and partial resolution of previous observations, T.C. Devore and J.L. Gole 133 (1989) 95
- Rotational and vibrational energy transfer of H₂(\tilde{v}, \tilde{J}) in collisions with H₂, Ar, HD and D₂, J. Arnold, T. Dreier and D.W. Chandler 133 (1989) 123
- Absolute cross sections for the near-resonant electronic energy transfer reactions between metastable Xe atoms and N₂ molecules, W. Böhle, H. Geisen, T. Krümpelmann and Ch. Ottiger 133 (1989) 313
- Mechanism of Hg(³P) relaxation in nitrogen matrices. I. Theoretical study of HgN₂, C. Crépin and P. Millie 133 (1989) 377
- Dynamics of the reactions Cl+HBr→HCl+Br and Br+HI→HBr+I. A quasiclassical trajectory study, M. Broida and A. Persky 133 (1989) 405
- Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction O+HBr→OH+Br, A. Persky and H. Kornweitz 133 (1989) 415
- Molecular photophysical processes*
- Mechanism of Hg(³P) relaxation in nitrogen matrices. I. Theoretical study of HgN₂, C. Crépin and P. Millie 133 (1989) 377
- A photoelectron spectroscopy study of the four outermost valence orbitals of formaldehyde, D.M.P. Holland 133 (1989) 453
- Intramolecular dynamics*
- Dynamics of the solute-solvent interactions of electronically excited 4-N,N-dimethyl aminobenzonitrile (DMABN) and of 3,5,N,N-tetramethyl-4-aminobenzonitrile (TMABN) dissolved in viscous alcohols and in a viscous nitrile, P.C.M. Weisenborn, A.H. Huizer and C.A.G.O. Varma 133 (1989) 437
- Luminescence spectra, yields and lifetimes*
- Fluorescence spectroscopic investigations of rhodamine dye vapors, J. Schmidt and A. Penzkofer 133 (1989) 297

Coherence loss processes

- A mathematical model for time-resolved radiofrequency-induced optical nuclear polarization, J. Rowat and J.P. Colpa

133 (1989) 65

Non-linear responses (including optical)

- Very large quadratic nonlinearities in solution of two push-pull polyene series: effect of the conjugation length and of the end groups, M. Barzoukas, M. Blanchard-Desce, D. Josse, J.-M. Lehn and J. Zyss

133 (1989) 323

Reactions (including dissociation)

- Electron impact direct dissociation processes of vibrationally excited H₂ molecules to excited atomic hydrogen H*(n=1-5). II. Translational energy distribution functions of dissociation products, R. Celiberto, M. Caciato and M. Capitelli

133 (1989) 369

-gas phase

- Reactive cross section for A+B₂→AB+B in the limit of high collision energy, E.A. Gislason and M. Sizun

133 (1989) 237

- A trajectory surface-hopping study of Cl+H₂ reactive collisions. II. Results at high energy, M. Sizun, G. Parlant and E.A. Gislason

133 (1989) 251

- Dynamics of the reactions Cl+HBr→HCl+Br and Br+HI→HBr+I. A quasiclassical trajectory study, M. Broida and A. Persky

133 (1989) 405

- Correlations between dynamical properties and features of potential energy surfaces for the exothermic light-atom-transfer reaction O+HBr→OH+Br, A. Persky and H. Kornweitz

133 (1989) 415

-condensed phase

- Mechanism of Hg(³P) relaxation in nitrogen matrices. I. Theoretical study of HgN₂, C. Crépin and P. Millie

133 (1989) 377

-photochemical

- Diffraction by holographic gratings in diacetylene crystals, H.-D. Bauer, Th. Vogtmann, I. Müller and M. Schwoerer

133 (1989) 303

- Infrared photodissociation in ONCl using a multiline CO laser, A. Picard-Bersellini, M. Cheikh and M. Broquier

133 (1989) 461

Electron transfer

- A trajectory surface-hopping study of Cl+H₂ reactive collisions. II. Results at high energy, M. Sizun, G. Parlant and E.A. Gislason

133 (1989) 251

- Classical solvent dynamics in electron transfer reactions, A.B. Helman

133 (1989) 271

Ionization (including Rydberg states)

- Contribution of correlation and relaxation to generalized overlaps for outer-valence ionization, M.E. Casida and D.P. Chong

133 (1989) 47

- The electronic states of benzene and the azines. I. The parent compound benzene. Correlation of vacuum UV and electron scattering data with ab initio CI studies, M.H. Palmer and I.C. Walker

133 (1989) 113

- Collisional ionization of highly excited neon atoms by benzene-d₆ and carbon suboxide, H. Nonaka, M. Uematsu, K. Yamanouchi, T. Kondow and K. Kuchitsu

133 (1989) 165

Surface effects and catalysis

Theoretical analysis of catalytic activity of transition metal complexes in symmetry forbidden reactions, A.L. Tchougreeff and I.A. Misurkin

133 (1989) 77

Thermodynamic and transport properties

Generalized Einstein relations for electron diffusion in monatomic gases, F.J. Uribe and E.A. Mason

133 (1989) 335

